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PCT/IB 03/02512

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**Certificate**

REPUBLIC OF SOUTH AFRICA PATENT OFFICE

Rec'd PCT/PTO 21 DEC 2004

DEPARTMENT OF TRADE AND  
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Application forms P.1 and P.3, provisional specification and  
drawings of South African Patent Application No. 2002/5233 as  
originally filed in the Republic of South Africa on 28 June 2002  
in the name of NAUDÉ, Francois Paulus, Jr for an invention  
entitled : "SHOPPING TROLLEY".

**PRIORITY  
DOCUMENT**

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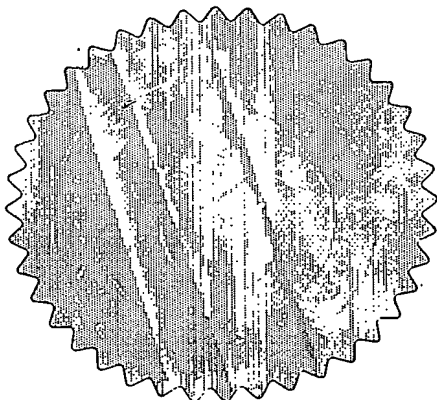
PRETORIA

In die Republiek van Suid-Afrika, hierdie  
in the Republic of South Africa, this

16th

dag van  
day of

October 2001



DIS 1840  
Registrateur van Patente

REPUBLIC OF SOUTH AFRICA  
PATENTS ACT, 1978  
APPLICATION FOR A PATENT AND  
ACKNOWLEDGEMENT OF RECEIPT  
(Section 30(1) Regulation 22)

FORM P.1  
(to be lodged in duplicate)

28.6.02

5. 0602

THE GRANT OF A PATENT IS HEREBY REQUESTED BY THE UNDERMENTIONED APPLICANT  
ON THE BASIS OF THE PRESENT APPLICATION FILED IN DUPLICATE

21 01 PATENT APPLICATION NO 2002/5233

A&A REF V15284 AS/JAL

71 FULL NAME(S) OF APPLICANT(S)

NAUDÉ, Francois Paulus, Jr

ADDRESS(ES) OF APPLICANT(S)

13 Loerie Street, Paradise, Knysna, Western Cape, Republic of South Africa

54 TITLE OF INVENTION

"SHOPPING TROLLEY"

Only the items marked with an "X" in the blocks below are applicable.

☐ THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. The earliest priority claimed is

Country:

No:

Date:

☐ THE APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO 21 01

☐ THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND BASED ON  
APPLICATION NO 21 01

THIS APPLICATION IS ACCOMPANIED BY:

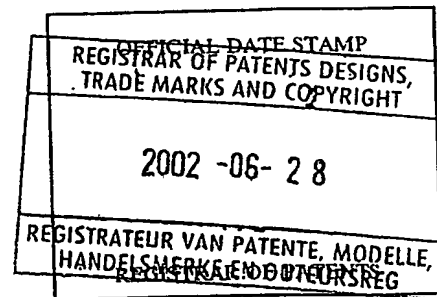
- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | A single copy of a provisional specification of 13 pages                         |
| <input checked="" type="checkbox"/> | Drawings of 2 sheets   |
| <input type="checkbox"/>            | Publication particulars and abstract (Form P.8 in duplicate) (for complete only) |
| <input type="checkbox"/>            | A copy of Figure of the drawings (if any) for the abstract (for complete only)   |
| <input checked="" type="checkbox"/> | An assignment of invention   |
| <input type="checkbox"/>            | Certified priority document(s). (State quantity)                                 |
| <input type="checkbox"/>            | Translation of the priority document(s)  |
| <input type="checkbox"/>            | An assignment of priority rights   |
| <input type="checkbox"/>            | A copy of Form P.2 and the specification of RSA Patent Application No 21 01      |
| <input checked="" type="checkbox"/> | Form P.2 in duplicate  |
| <input checked="" type="checkbox"/> | A declaration and power of attorney on Form P.3                                  |
| <input type="checkbox"/>            | Request for ante-dating on Form P.4  |
| <input type="checkbox"/>            | Request for classification on Form P.9   |
| <input type="checkbox"/>            | Request for delay of acceptance on Form P.4                                      |
| <input type="checkbox"/>            | Extra copy of informal drawings (for complete only)                              |

74 ADDRESS FOR SERVICE: Adams & Adams. Pretoria

Dated this 28th day of June 2002

ADRIAN VICTOR VAN REENEN SCHWEIZER  
ADAMS & ADAMS  
APPLICANTS PATENT ATTORNEYS

The duplicate will be returned to the applicant's address for service as  
proof of lodging but is not valid unless endorsed with official stamp



PATENT APPLICATION NO			A&A Ref: V15284 AS/JAL			LODGING DATE	
21	01	E2002/5233				22	28 June 2002

FULL NAME(S) OF APPLICANT(S)	
71	NAUDÉ, Francois Paulus, Jr

FULL NAME(S) OF INVENTOR(S)	
72	NAUDÉ, Francois Paulus, Jr LECHAT, Eve Marie Luce Jacqueline

EARLIEST PRIORITY CLAIMED	COUNTRY	NUMBER	DATE
	33	NIL	31
		NIL	32
			NIL

NOTE: The country must be indicated by its International Abbreviation - see schedule 4 of the Regulations

TITLE OF INVENTION	
54	"SHOPPING TROLLEY"

I/We Francois Paulus Naudé, Jr

hereby declare that :-

1. I/we am/are the applicant(s) mentioned above;

\*\* 2. ~~I/we have been authorized by the applicant(s) to make this declaration and have knowledge of the facts herein stated in the capacity of~~ of the applicant(s);

\*\*\* 3. the inventor(s) of the abovementioned invention is/are the person(s) named above and the applicant(s) has/have acquired the right to apply by virtue of an assignment from the inventor(s);

4. to the best of my/our knowledge and belief, if a patent is granted on the application, there will be no lawful ground for the revocation of the patent;

\*\*\*\* 5. ~~this is a convention application and the earliest application from which priority is claimed as set out above is the first application in a convention country in respect of the invention claimed in any of the claims; and~~

6. the partners and qualified staff of the firm of ADAMS & ADAMS, patent attorneys, are authorised, jointly and severally, with powers of substitution and revocation, to represent the applicant(s) in this application and to be the address for service of the applicant(s) while the application is pending and after a patent has been granted on the application.

SIGNED THIS 20th DAY OF MAY 2002

Company Name:

Full Names:

Capacity:

Francois Paulus Naudé, Jr

(no legalization necessary)

\* In the case of application in the name of a company, partnership or firm, give full names of signatory/signatories, delete paragraph 1, and enter capacity of each signatory in paragraph 2.

\*\* If the applicant is a natural person, delete paragraph 2.

\*\*\* If the right to apply is not by virtue of an assignment from the inventor(s), delete "an assignment from the inventor(s)" and give details of acquisition of right.

\*\*\*\* For non-convention applications, delete paragraph 5.

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PATENT ATTORNEYS  
PRETORIA

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PATENTS ACT, 1978  
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- ☐ Extra copy of informal drawings (for complete only)

74 ADDRESS FOR SERVICE: Adams & Adams, Pretoria

Dated this 28th day of June 2002

**THIS INVENTION** relates to a shopping trolley usable as a vehicle accessory. The invention also relates to a vehicle which includes the trolley or accessory.

According to the invention there is provided a shopping trolley or vehicle accessory which includes:

- a shopping basket or tray; and
- an undercarriage connected to the basket or tray, the undercarriage being operable between an erected condition, in which the undercarriage supports the basket or tray at a working height above the ground on wheels, and a collapsed compact condition, for loading into a boot or trunk of a passenger sedan.

A feature of the trolley, in its collapsed condition, is that it can fit into a boot or trunk of a passenger sedan of average size, to function as a boot or trunk divider or organiser.

The accessory thus may, when the undercarriage is in its collapsed

condition, be supportable on a floor of the boot or trunk such that the basket or tray faces upwardly, or, in other words, has an orientation relative to the vertical similar to the orientation of the basket when the undercarriage is in its extended condition and supports the basket on the ground, so that the basket provides a boot divider or boot organiser.

The spacing of the basket from the ground surface, when the undercarriage is in its erected condition, may be such that the basket or tray is accessible to a person of average height in normal stance, without the need for excessive bending, i.e. it is of the usual shopping trolley height. The spacing of the shopping basket or tray from the ground surface may thus be greater than 0.45m, preferably 0.5-0.6m. Conveniently, the spacing of the shopping tray from the ground surface, when the undercarriage is in its erected condition, is variable.

The shopping basket or tray will define a storage space, and this storage space may conveniently be divided into a number of compartments. In a preferred embodiment, the accessory includes a number of durable shopping bags which are receivable in the storage space of the basket or tray. By durable is meant that the bags form a permanent part of the accessory, the bags being removable or detachable from the basket or tray and being intended for repeated use, in contrast to conventional more or less disposable shopping bags which are of flexible thin-walled sheet-like plastic material. The bags may thus be of a woven flexible plastics textile

material, or the bags may be of a woven natural material.

The bags may be of a substantially liquid-impervious material. In a particular embodiment of the invention, at least some of the bags are divided into separate chambers. At least one of the bags may be insulated to provide insulated storage chambers. Some of the storage chambers may be padded to inhibit damage, in use, of fragile articles, such as glass articles, stored in the storage chambers. Furthermore, partitions which separate the respective storage chambers from one another may be provided with stiffening, to inhibit bruising of articles of produce, such as soft fruit, stored in the storage chambers. Each bag may have a closure mechanism, for example a slide fastener, for openably closing the bags, the bags preferably being liquid-tight when they are closed.

The undercarriage will have a set of wheels such as rollers for engaging the support surface to provide mobility of the undercarriage. In a preferred embodiment, the set of rollers comprises four castors, each of which is freely swivelable about an associated upright swivel axis. The undercarriage may be sufficiently strong to support a load of at least 50kg in the tray, when the undercarriage is in its erected condition.

The invention extends to a vehicle which includes:

a boot, or trunk; and

a shopping trolley or vehicle accessory as described above, the vehicle accessory being located in the boot of the car, in its collapsed condition.

Advantageously, the floor of the boot or trunk may be specifically shaped or provided with one or more fittings, for receiving or engaging the accessory in its collapsed condition, such that it will be held and located in a stable condition in the boot or trunk during normal operation of the vehicle.

The trolley may include fasteners for fastening the trolley in position in the boot or on the load bed of the vehicle, such as fastening straps which are fast with the tray of the trolley.

The invention will now be further described, by way of example, with reference to the accompanying diagrammatic drawings, in which:

Figure 1 is a schematic side elevation of a shopping trolley in accordance with the invention, an undercarriage of the shopping trolley being in an erected condition;

Figure 2 is a view corresponding to Figure 1, the undercarriage being in a collapsed condition;

Figure 3 is a schematic end elevation of a shopping trolley of Figure 1, the undercarriage being in its collapsed condition; and



Figure 4 is a schematic plan view of the shopping trolley of Figure 1 in a boot or trunk of a passenger sedan.

In the drawings, reference numeral 10 generally indicates a shopping trolley or vehicle accessory in accordance with the invention. The shopping trolley 10 comprises a shopping basket or tray 12, and an undercarriage 14.

The tray 12 has a rectangular base 16 from which a low peripherally extending side wall 18 rises, to form a shallow storage space 20. The tray 12 is a moulded unit of a thermo-plastic material.

The shopping trolley 10 includes a pair of durable bags 22, 24 (not shown in Figure 2) which are snugly received in the storage space 20. The bags 22, 24 form a permanent part of the trolley 10, being removable or detachable from the tray 12 and being intended for repeated use. The bags 22, 24 are of a woven flexible plastics textile material. One of the bags 22 is divided into four elongated cylindrical compartments 26 of equal size, the shape and size of the compartments 26 being suitable for holding conventional two litre cool drink bottles and the lengthwise direction of the compartments 26 being upright. The walls of this bag 22 are insulated, so that the bag 22 provides insulated storage compartments 26.

The other bag 24 is divided into two chambers 28 of equal size. Each

bag has a closure mechanism in the form of a slide fastener or zip 30, for openably closing the bags 22, 24. Both bags 22, 24 are substantially fluid-tight when they are closed. It should be appreciated that the size and shape of the storage chambers will vary from region to region or country to country to suit the preferences of users in the various regions where the trolleys 10 are used.

Although not shown in the drawings, each bag 22, 24 is provided with a handle for facilitating carrying thereof.

In another embodiment of the invention, which is not illustrated, the storage space 20 of the tray 12 is divided into compartments, so that the shopping trolley 10 does not include the bags 22, 24. In use, articles of shopping can be stored directly in these compartments of the tray 12.

The undercarriage 14 is operable between an erected condition (Figure 1) in which the undercarriage 14 supports the tray 12 at a working height above the ground 32 on a set of wheels 34, and a collapsed condition (Figures 2 and 3), in which the trolley 10 is sufficiently compact to fit into a boot or trunk (not shown, except for its floor in Figure 4) of a passenger sedan (not shown). In the erected condition (Figure 1) the undercarriage 14 thus supports the tray 12 at the usual shopping trolley height, i.e. about 0.6 metres or more from the ground 32, the storage space 20 of the tray 12 facing and opening upwardly.

The undercarriage 14 comprises two independently erectable halves 36, each half 36 comprising a U-shaped handle frame 38 and a pair of wheel struts 40, each handle frame 38 being pivotally displaceable relative to the associated wheel strut 40 about a pivot axis 42 which is parallel to the base 16 of the tray 12, and extends normally to the fore-and-aft direction of the tray 12. In the erected condition of the undercarriage 14, the handle frames 38 are pivotally spaced from the associated wheel struts 40, while, in the collapsed condition, each handle frame 38 lies flat against the associated wheel struts 40. It should be appreciated that, although each handle frame 38 is aligned with an opposed pair of wheel struts 40 when the undercarriage is in its erected condition (Figure 1), this alignment is coincidental, and the handle frames 38 and wheel struts 40 could indeed be misaligned.

In the erected condition, each handle frame 38 forms a handle 44 for facilitating pushing of the shopping trolley 10. Although not shown in detail, each wheel 34 is in the form of a castor which is freely swivelable about an upright swivel axis, so that the trolley 10 can be pushed with equal ease from either end of the trolley 10. As the halves 36 of the undercarriage 14 are independently collapsible, the shopping trolley 10 can be operated wheelbarrow-fashion when one of the halves 36 is erected and the other half 36 is collapsed. The undercarriage 14 is provided with a locking mechanism (not shown) for independently locking each half 36 in either an erected condition or a collapsed condition, to permit locking of the undercarriage

in wheel-barrow format. In a development of the invention, the locking mechanism is operable by means of push buttons located on each of the handle frames 38. Furthermore, as can be seen in Figure 2, when the trolley 10 is in its collapsed condition, the wheels 34 protrude from the rest of the undercarriage 14 a sufficient distance to permit wheel-barrow-fashion operation of the trolley 10 when the undercarriage 14 is completely collapsed.

Figure 4 shows a part of a floor 46 of the boot of the passenger sedan, the shopping trolley 10 being supported on the floor 46 in its collapsed condition. Although it cannot be seen in Figure 4, the floor 46 has a depression which is complementary in shape to the underside of the shopping trolley 10 in its collapsed condition, so that the shopping trolley 10 is snugly received in this depression. The shopping trolley 10 is thus held and located in a stable condition in the boot during normal operation of the vehicle.

In use, the shopping trolley 10 is stored in the boot of the vehicle during normal operation of the vehicle, the trolley 10 being held in a stable condition by the depression in the floor 46 of the boot. In this condition, the shopping trolley 10 serves as a boot divider, or trunk organiser, providing a number of compartments 26, 28 for storing goods in a stable manner.

When a user (not shown) goes into a shop to do shopping, the shopping

trolley 10 is removed from the boot, and the undercarriage 14 is displaced into its erected condition by pivotally displacing the handle frames 38 away from the wheel struts 40, the undercarriage 14 automatically locking in its erected condition. The shopping trolley 10 is then be used in a manner similar to conventional shopping trolleys, by pushing the trolley 10 to a shop where articles are to be bought, steering the trolley 10 between the aisles of the shop, and placing articles which are to be bought into the tray 12. After the articles of shopping have been checked out in the usual manner, the bought articles are placed in the bags 22, 24 in the tray 12, and the trolley 10 is pushed back to the vehicle. Thereafter, the undercarriage 14 is collapsed, and the shopping trolley 10, with the bought articles still carried by the bags 22, 24 in the tray 12, is placed in the boot. Naturally, articles which should preferably be kept cool, are placed in the insulated chambers 26.

It is envisaged that the undercarriage 14 can be constructed such that it is automatically collapsible upon pushing thereof into contact with the boot of the vehicle. To this end, it is expected possibly to be necessary to build the rear end of the vehicle specifically to form a landing for such an automatically collapsible shopping trolley, when a lid of the boot is open. This landing can include a roller rotatably mounted on the vehicle, to facilitate sliding of the trolley into the boot.

The user can then drive back to the user's home, the trolley 10 being kept stable in the boot as described above. At home, the user has the option of

removing the trolley 10 from the boot, erecting the undercarriage 14, and pushing the trolley 10 to a desired location, or the user can remove the bags 22, 24 and carry them to the desired location.

It is an advantage of a shopping trolley 10 as described with reference to the drawings, that it provides for convenient transportation of articles of shopping from a point of purchase to the home of the user. In contrast to conventional shopping methods, it is not necessary for the user to find a functioning shopping trolley at the shop, to pack the bought articles into thin-walled flexible plastic bags at the checkout point, to load these shopping bags into the boot of the vehicle, and to unload the bags from the boot of the vehicle and carry them to the desired location. Consequently, at least the step of unloading shopping bags from a conventional shopping trolley into the boot of the vehicle is eliminated, and, if the shopping trolley 10 is used to convey the bought articles from the vehicle to the desired location, the step of unloading the shopping bags from the boot of the vehicle is also eliminated.

Repeated use of the durable bags 22, 24 should alleviate the environmental impact of conventional shopping bags of thin plastics sheet material.

The trolley 10 also provides a convenient way of transporting articles from the home to the shop, for instance empty bottles which are to be returned. When a small quantity of shopping is to be bought, a user has the option of removing

one of the durable bags from the tray 12, leaving the trolley 10 in the vehicle, and using the bag to carry articles of shopping from the shop to the vehicle, where the bag is returned to the tray 12.

It is, of course, a further advantage of the invention that, while not in use as a shopping trolley, the shopping trolley 10 conveniently provides a boot organiser. Also, the closure mechanisms 30 of the bags 22, 24 can prevent potential harm to occupants of a vehicle having no partition between the boot and the passenger compartment of the vehicle, owing to airborne articles of shopping during an accident.

In a development of the invention, which is not shown, an electronic computer can be mounted on a mounting therefor provided on the tray 12. The computer can be used to store a list of items to be bought, and it is envisaged that the computer can have an interface to a computer system of a shop where articles are to be bought, for downloading information about these articles, such as their price and their location in the shop. Naturally, the computer will be located in an easily accessible manner in the tray 12.

Furthermore, the tray 12 can have receptacles for holding accessories such as a writing pad, pencil, or cellular phone. The tray 12 can also be provided with hooks for holding additional shopping bags, and the tray 12 can have integrally

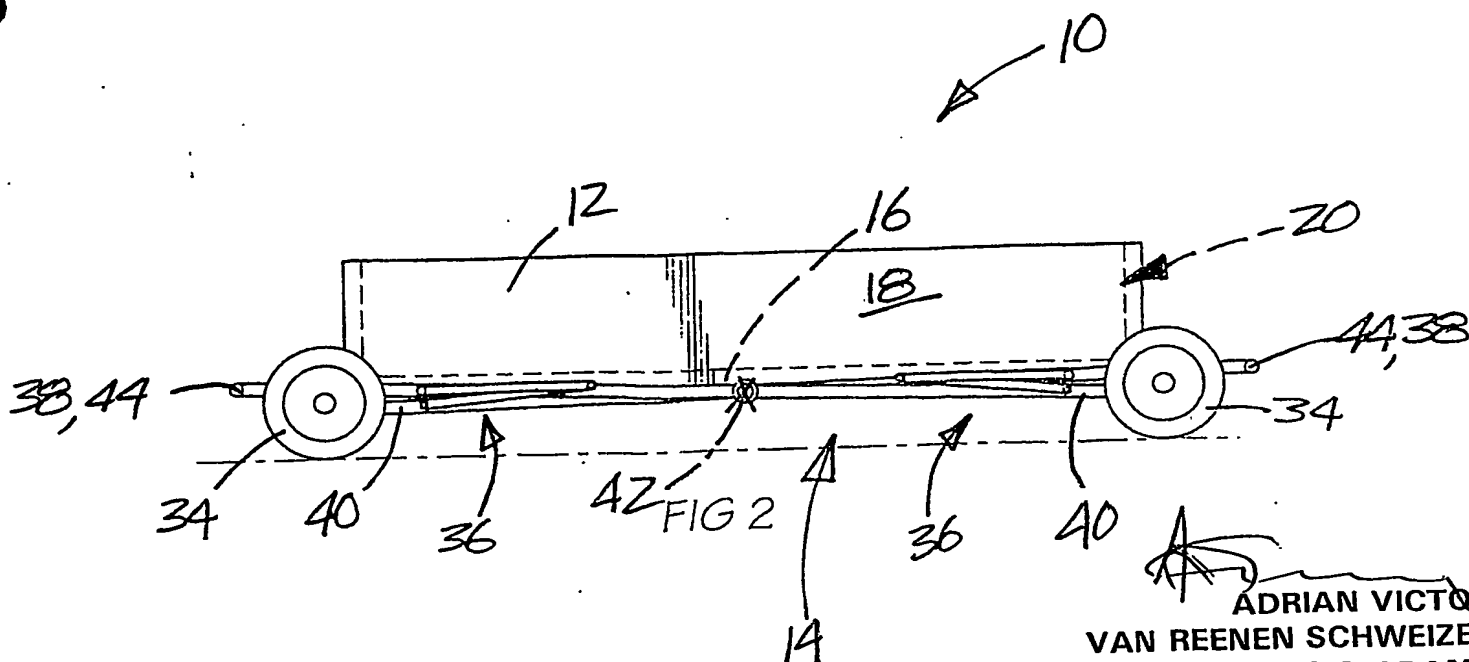
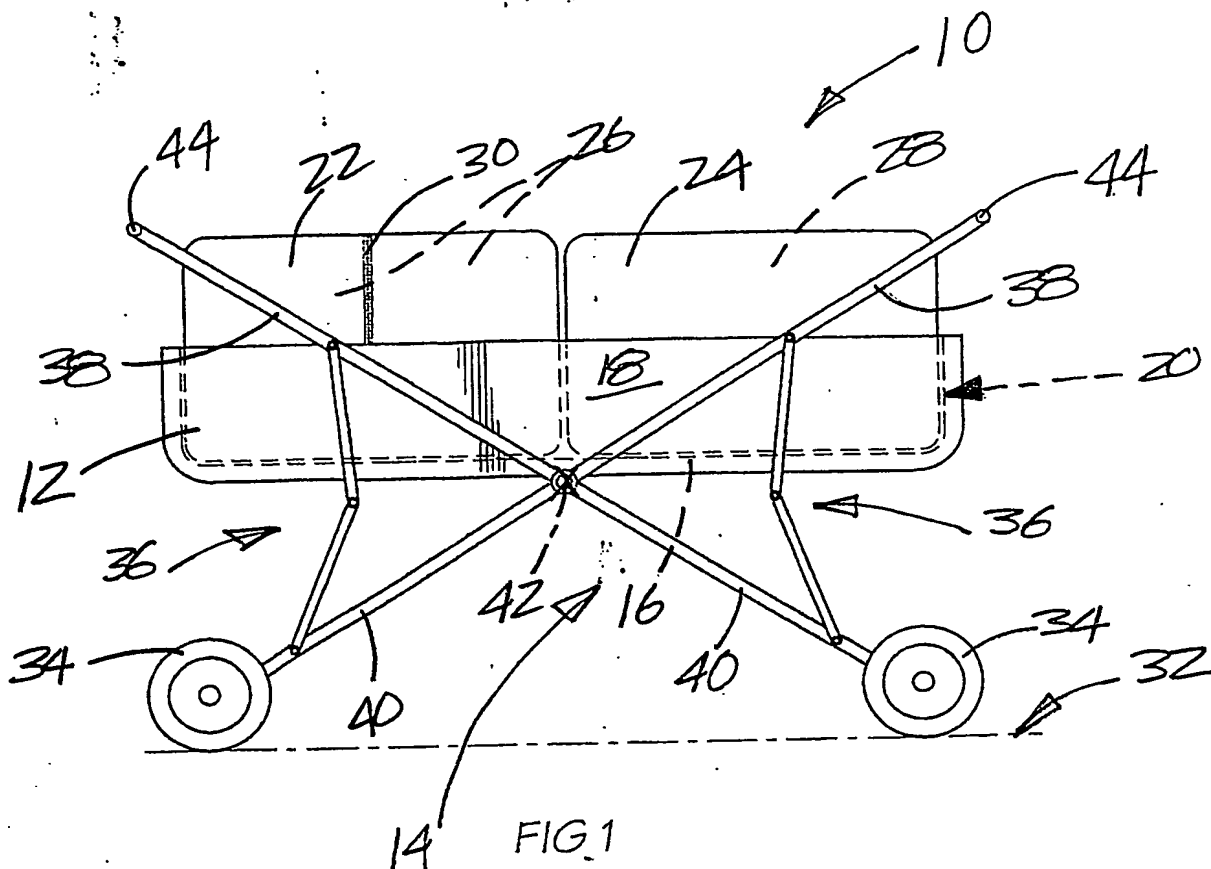
moulded handles for facilitating carrying or storage of the tray 12, e.g. for carrying thereof in the fashion of a suit case or for manoeuvring it in a vehicle's boot. It is also a feature of the invention that it can be made of recycled or recyclable materials; and that it can be branded and/or styled to match particular makes and/or colours of vehicles. It is also expected that the invention can form a link between pantry and supermarket, while reducing the unnecessary use of disposable carrier bags. Instead, if desired, it can be left in the boot and its durable bags can be carried between it and the supermarket on the one hand, and between it and the pantry on the other.

DATED THIS 28th day of JUNE 2002

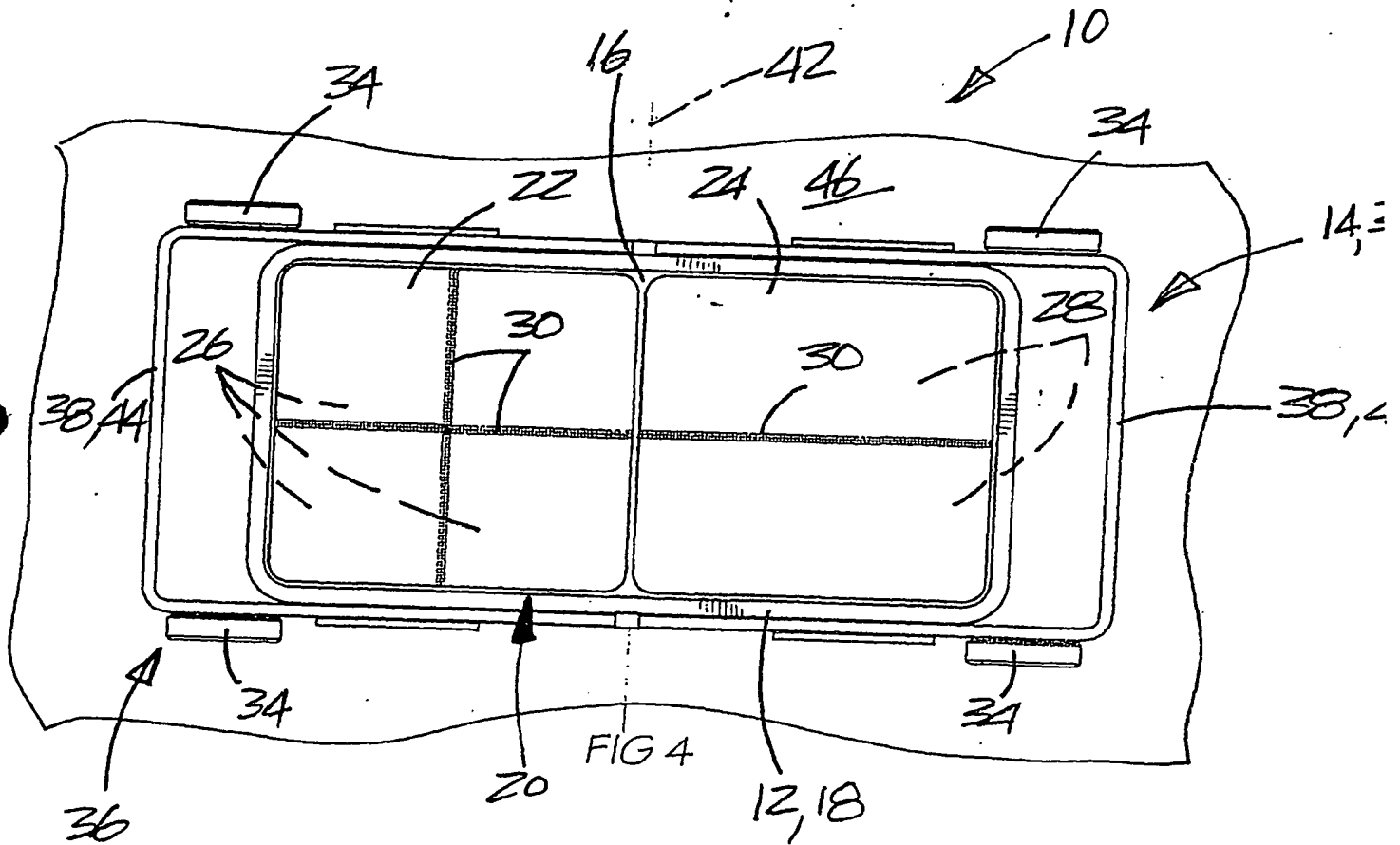
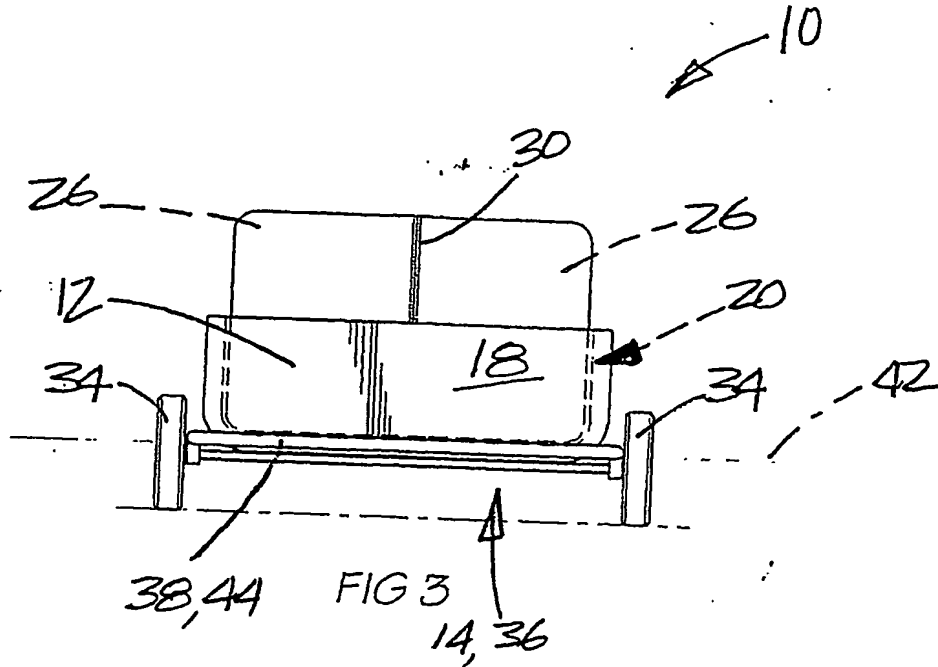



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